California Water Plan Update 2004 & Beyond

Advisory Committee Briefing

October 14, 2004

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Topics for Today's Briefing

- **California Water Plan Update 2004**
- **Phase 2 Progress - Selecting Data & Tools for Future Analysis**
- **Bonus Material: DWR Technical & Financial Assistance Programs**

California Water Plan Update

- Changes between June and Admin. Drafts
- California Water Today
- Planning for an Uncertain Future
- Resource Management Strategies
- The Strategic Plan & Framework for Action
- Implementation Plan
- Bridging Update 2004 & Update 2008

Changes Between June 7 AC Draft & Sept. Admin. Draft

Overview of Changes

- **Document Organization** (see next slide)
- **Editorial Process & Publication Format**
- **New Content**
  - Executive Summary (comprehensive including June 7 Findings & 14 Recommendations)
  - Water demand estimates for 3 Future Scenarios
  - Reference Guide articles (see Vol. 4 TOC)
  - A Framework for Action (see later slide)

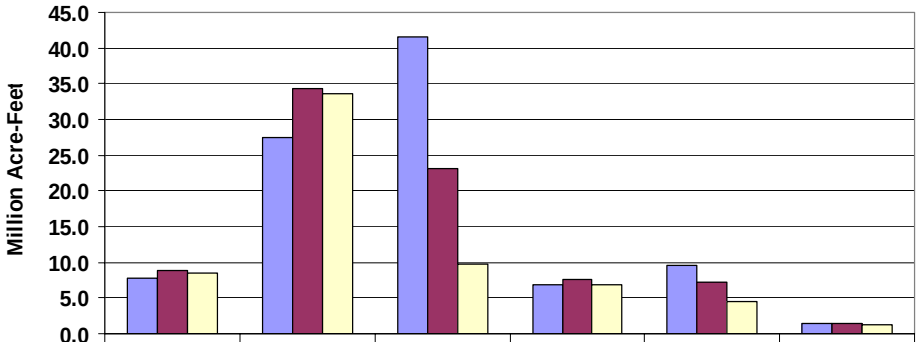
Water Plan Organization

- **Vol. 1 > Strategic Plan**
  - Executive Summary (includes "Findings & Recommendations")
  - Chapter 1: Water Plan Overview
  - Chapter 2: California Water Today
  - Chapter 3: Planning for an Uncertain Future
  - Chapter 4: A Framework for Action
  - Chapter 5: Implementation Plan
- **Vol. 2 > 25 Resource Management Strategies**
  - Revised Strategy Summary Table with Supply Benefits Figure
- **Vol. 3 > 12 Regional Reports**
  - 10 Hydrologic Regions, Delta & Mountain Counties
- **Vol. 4 > Reference Guide**
  - 40+ Supplemental articles and reference material
- **Vol. 5 > Technical Guide**
  - Online documentation for data, methods & tools

California Water Today & Regional Reports

California Water Portfolio

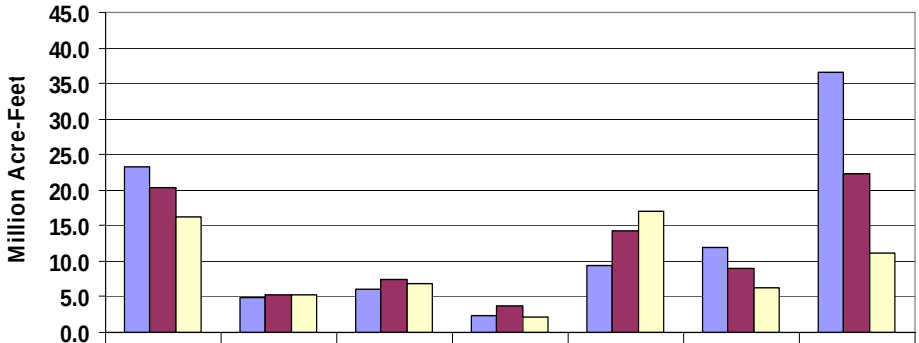
1998, 2000, 2001 Applied Water Uses



	Urban	Irrigated Agriculture	Wild & Scenic R.	Instream Flow	Req Delta Outflow	Managed Wetlands
1998	7.8	27.4	41.6	6.9	9.5	1.4
2000	8.9	34.2	23.1	7.5	7.2	1.5
2001	8.6	33.7	9.8	6.8	4.5	1.3

California Water Portfolio

1998, 2000, 2001 Dedicated Water Supplies



	Local Projects	Colorado Project	Federal Projects	State Project	Ground Water	Reuse Recycle	Dedicated Environ
1998	23.3	5.0	6.0	2.3	9.3	12.0	36.6
2000	20.4	5.3	7.5	3.7	14.3	9.1	22.2
2001	16.1	5.2	6.8	2.1	17.0	6.3	11.2

Planning for an Uncertain Future

3 No-Action Scenarios for 2030
Plausible Yet Different Futures

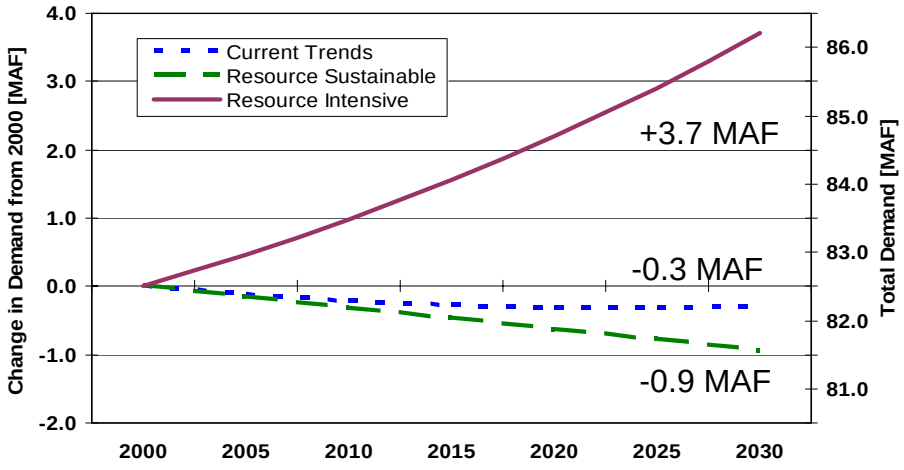
- **Current Trends** — Existing trends continue into the future
- **Resource Sustainable** — California has more naturally occurring conservation (NOC) while growing its economy and restoring the environment
- **Resource Intensive** — Highly productive California, respectful of environment, but more people and less NOC than other scenarios

3 No-Action Scenarios for 2030

Assumptions for Key Factors

Scenario Factors Affecting Water Demand	Year 2000 Observed	2030 Current Trends	2030 Resource Sustainable	2030 Resource Intensive
Population (millions)	34.1	48.1	48.1	52.3
Share in Inland & southern	76%	78%	78%	79%
Share of Multi-Family houses	35% of 11.6	34%	44%	29%
Naturally Occurring Conservation	----	- 10%	- 20%	- 5%
Irrigated Crop Area (million acre)	9.5	9.1	9.5	9.5
Irrigated land area	9.0	8.1 (- 10%)	8.5 (- 5%)	8.1 (- 10%)
Multi-cropped area	0.5	1.0 (+100%)	1.0 (+100%)	1.4 (+200%)
Effective crop water use (ac-ft/ac)	3.2	3.0	2.9	3.1
Environmental Water (maf) Instream flows & refuges	2000 Level	0.5 (+50% obj.)	1.0 (+100% obj.)	2000 Level

Net Water Demand Changes From 2000 No-Action Scenarios

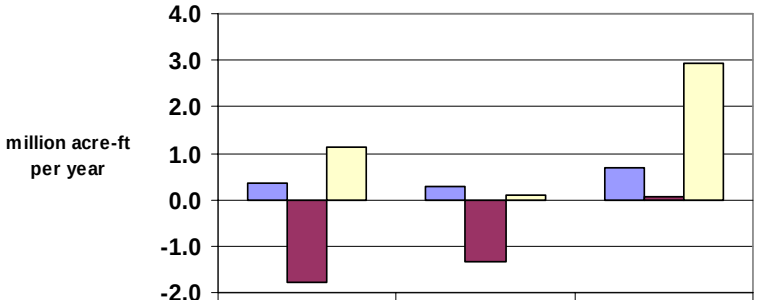


*** Need Additional 1-2 maf/yr to Stop GW Overdraft**

Water Demand Changes by Sector
3 No-Action Scenarios

	Current Trends	Resource Sustainable	Resource Intensive
Urban	3.1	1.3	5.3
Agriculture	-3.9	-3.2	-1.6
Environment	0.5	1.0	0.0

Water Demand Changes by Region
3 No-Action Scenarios



	Current Trends	Resource Sustainable	Resource Intensive
North & Coast	0.3	0.3	0.7
Central Valley	-1.8	-1.4	0.1
South & Dry	1.1	0.1	2.9

Resource Management Strategies

25 Resource Management Strategies
(in alphabetical order)

1. Ag. Lands Stewardship
2. Agricultural Use Efficiency
3. Conj. Mgmt / GW Storage
4. Conveyance
5. Desalination
6. Drinking Water Treatment & Distribution
7. Economic Incentives (Loans, Grants & Water Pricing)
8. Ecosystem Restoration
9. Floodplain Management
10. GW / Aquifer Remediation
11. Matching WQ to Use
12. Pollution Prevention
13. Precipitation Enhancement
14. Recharge Area Protection
15. Recycled Municipal Water
16. Surface Storage – CALFED
17. Surface Storage – Region/Local
18. System Reoperation
19. Urban Land Use Management
20. Urban Runoff Management
21. Urban Water Use Efficiency
22. Water-Dependent Recreation
23. Water Transfers
24. Watershed Management
25. Other Strategies

25 Resource Management Strategies
(organized by function)

Function	Resource management strategy
Demand reduction	Agricultural Water Use Efficiency Urban Water Use Efficiency
Operational efficiency & redistribution	Conveyance System Reoperation Water Transfers
Supply augmentation	Conjunctive Management & Groundwater Storage Desalination – Brackish Desalination – Seawater Precipitation Enhancement Recycled Municipal Water Surface Storage – CALFED Surface Storage – Regional/Local
Quality improvement	Drinking Water Treatment & Distribution Groundwater/Aquifer Remediation Matching Quality to Use Pollution Prevention Urban Runoff Management
Resource stewardship	Agricultural Lands Stewardship Economic Incentives (Loans, Grants, and Water Pricing) Ecosystem Restoration Floodplain Management Recharge Areas Protection Urban Land Use Management Water-Dependent Recreation Watershed Management
Other management strategies	

CA Water Plan Update

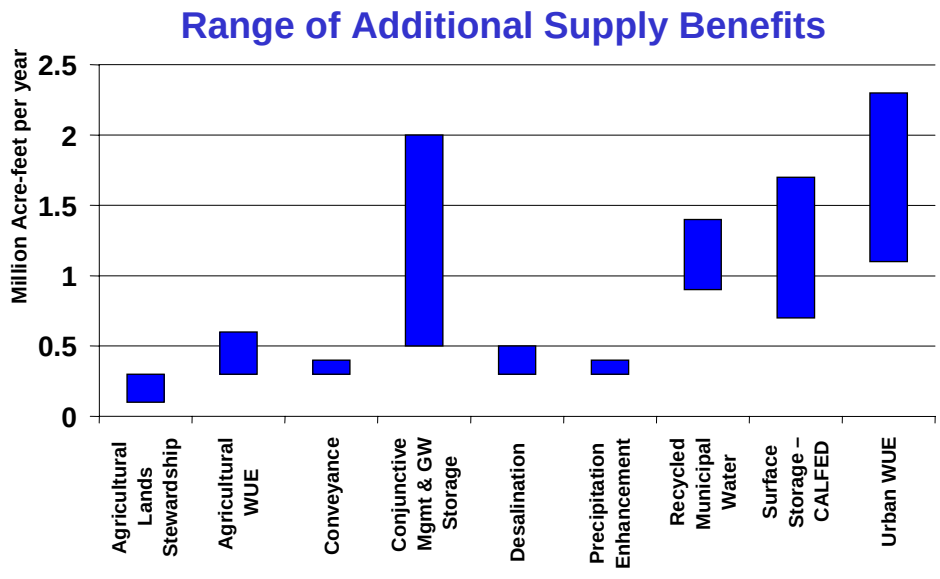
Strategies Summary Table

(presented in Volume 2 Introduction)

Resource Management Strategies	Water Management Objectives: Provide Water Supply Benefit	Improve Drought Preparedness	Improve Water Quality	Operational Flex & Efficient	Reduce Flood Impacts	Environmental Benefits	Energy Benefits	Recreational Opportunities	Reduce GW Overdraft	Cumulative Cost of Option by 2030 ($ Billion) See narratives for backup
Demand Reduction										
Agricultural Water Use Efficiency	●	●	●	●		●	●		●	0.3 – 2.7
Urban Water Use Efficiency	●	●	●	●		●	●			In progress
Operational Efficiency & Redistribution of Water										
Conveyance	●	●	●	●	●	●	●	●	●	0.2 – 2.4
System Reoperation	●	●	●	●	●	●		●		
Water Transfers		●	●	●		●				
Water Supply										
Conjunctive Management & Groundwater Storage	●	●	●	●	●	●			●	1.5 – 5.0
Desalination – Brackish	●	●	●	●					●	0.2 – 1.6
– Seawater	●	●	●	●					●	0.7 – 1.3
Precipitation Enhancement	●	●					●			0.2
Recycled Municipal Water	●	●	●	●		●	●	●	●	6.0 – 9.0
Surface Storage – CALFED	●	●	●	●	●	●	●	●	●	3.3 – 5.6
Surface Storage – Regional/Local	●	●	●	●	●	●			●	
Water Quality										
Drinking Water Treatment and Distribution			●							17.0 – 21.0
Groundwater/Aquifer Remediation	●	●	●						●	20.0
Matching Quality to Use	●	●	●							0.1
Pollution Prevention			●			●		●		15.0
Urban Runoff Management	●	●	●		●	●		●	●	
Resource Stewardship										
Agricultural Lands Stewardship	●	●	●	●	●	●	●	●	●	5.3
Economic Incentives (Loans, Grants, and Water Pricing)	●	●	●	●		●			●	
Ecosystem Restoration	●			●	●	●		●		7.5 – 11.3
Floodplain Management				●	●	●		●		0.5
Recharge Areas Protection	●	●	●		●				●	
Urban Land Use Management	●		●		●	●		●	●	
Water-Dependent Recreation								●		3 – 6% of total
Watershed Management	●	●	●		●	●			●	0.5 – 3.6
Other Resource Management Strategies	Objectives vary by strategy (see narratives in remainder of Volume 2)									

The following support activities are essential for successfully integrating packages of these resource management strategies. Compared with the costs of implementing the resource management strategies, the costs are relatively small for the essential support activities shown below (see Chapter 4 of Volume 1).

Essential Support Activities to Integrate Strategies and Reduce Uncertainty	
Regional Integrated Resource Planning & Management	0.25
Statewide Water Planning	0.12
Data & Tool Improvement	0.25
Research & Development	0.25
Science	3 – 5% of total



CA Water Plan Update

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The Strategic Plan & A Framework for Action

CA Water Plan Update

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Strategic Plan Overview

- Vision
- Mission
- Goals
- Recommendations
- Framework for Action
- Implementation Plan

Water Plan Vision

California's water resource management preserves and enhances public health and the standard of living for Californians; strengthens economic growth, business vitality, and the agricultural industry; and restores and protects California's unique environmental diversity.

Water Plan Mission

To develop a strategic plan that guides State, local, and regional entities in planning, developing, and managing adequate, reliable, secure, affordable, and sustainable water of suitable quality for all beneficial uses.

Water Plan Goals
Intended Outcomes

- **State government supports good water planning and management through leadership, oversight, and public funding.**
- **Regional efforts play a central role in California water planning and management.**
- **Water planning and urban development protect, preserve, and enhance environmental and agricultural resources.**
- **Natural resource and land use planners make informed water management decisions.**
- **Water decisions are equitable across all communities.**

Framework for Action

- **Purpose**
  - Group 14 Rec'ds by Priorities
  - Provide Focus & Specificity
- **Content**
  - 5 Fundamental Lessons
  - 4 Priorities
  - ~25 High-priority Near-term Actions

Framework for Action

Fundamental Lessons

- Sustainable development & water use foster strong economy, protect public health & environment, and improve quality of life
- Regional planning is the best way to plan for and carry out solutions to water management problems
- Water is precious resource -- must protect water quality and use supplies wisely and efficiently
- Water conservation & recycling are becoming and need to be a fundamental management strategy
- Some regions need more ground and surface water storage for greater operational flexibility

Framework for Action
Priorities

- **Promote integrated resource planning** for sustainable water resource use, environmental stewardship, and efficient urban development
- **Strengthen & make better use of water infrastructure** as the backbone of water management in California
- **Adapt State government and funding methods** to better meet the needs of its citizens and support local agencies and governments in sustainable water management
- **Capitalize on promising water & information technologies** to support better business decisions

Implementation Plan
All Near-Term & Comprehensive Actions

- Action Plan for each Rec'd
  ~25 Near-term actions (Framework for Action)
  ~40 Long-term comprehensive actions
- Intended Outcomes
- Resource Assumptions
- Implementation Challenges
- Performance Measures

Bridging Update 2004 & Update 2008

Phased Work Plan

- **Phase 1 – Feb. 2003 through Dec. 2004**
  - Public Review Draft of Water Plan Update
  - Work Plan for preparing data & tools
- **Phase 2 – Jan. 2004 through April 2005**
  - Public Comment & Final Water Plan (April 2005)
  - Select methods & tools to quantify 2030 Scenarios
- **Phase 3 – begins May 2005**
  - Marks beginning of Update 2008 process
  - Assemble new Advisory Committee (Regional)
  - Conduct Quantitative Studies for 2030 Scenarios

Phase 1
Production Schedule

- Administrative Draft — Sept. 2004
- Public Review Draft — Dec. 2004
- Public Hearings — Jan/Feb 2005
- Final Water Plan — April 2005

Phase 2 Progress
Selecting Data & Analytical Tools

- Conceptual Approach for Future Analysis (To-Be)
- Inventory & Documentation for Existing Data & Analytical Tools (As-Is)
- Reconcile Conceptual Approach w/ Existing Tools
- Refine No-Action Scenarios for 2030
- Develop Response Packages (mixes of strategies)
- Proposal to Analyze Scenarios & Response Packages for Update 2008
- Proposal to Improve Data & Tools Beyond 2008

Public Hearing Locations

- Eureka
- Redding
- Sacramento
- Oakland
- Tracy or Stockton
- Bakersfield
- San Luis Obispo
- Ontario or San Bernardino
- Palm Desert

DWR Technical & Financial Assistance

District Office Programs

- Emergency Response following catastrophic events (flood, fire, …)
- Drought Education, preparedness and assistance
- Basic Data: Water Quality, Streamflow and Climatology
- Technical Assistance for Stream Monitoring
- Aerial Photography & Crop Mapping
- Land Use & Water Use Studies
- Water Supply Studies for Small Systems
- Well Log information for govm't entities

Flood Management

- Real-time information on California Data Exchange Center (CDEC) at
  - www.cdec.water.ca.gov
- State – Federal Flood Operations Center
  - (800) 952-5530

Financial Assistance

- **Local Groundwater Asst. (AB 303)**
  - $6 million for FY 2004-05
  - Proposals due December 2, 2004
  - Workshops Oct 19 (Sac) & 22 (Redding)
- **Prop 50 Water Use Efficiency Grants**
  - Total $120 million for Ag & Urban WUE
  - $34 million for FY 2004-05
  - Proposals due January 2005
  - Draft PSP Online / Final PSP in November

Financial Assistance (cont)

- **Prop 50 Desalination Grants**
  - Total $50 million for Feasibility Studies, R&D, Pilot Projects & Construction Projects
  - Applications due January 2005
- **Prop 50 Integrated Regional Water Management Grants**
  - Total $380 million / $160 million first cycle
  - $10 million for developing IRWM Plans
  - $50 million max per implementation grant
  - Planning Applications due Feb. 2005
  - Step 1 Applications due March 2005
  - Step 2 Applications due Dec. 2005

Contacts

- **Planning & Local Assistance**
  - Mark Cowin (916) 651-9202
- **DWR Districts (Regional Offices)**
  - Paula Landis (559) 230-3310 San Joaquin (Fresno)
  - Dwight Russell (530) 529-7342 Northern (Red Bluff)
  - Karl Winkler (916) 227-7566 Central (Sacramento)
- **Groundwater & Bulletin 118**
  - John Woodling (916) 651-9291
- **Flood Management**
  - Flood Center (800) 952-5530

Contacts (cont.)

- **AB 303 GW Grants**
  - John Woodling (916) 651-9291
- **Prop 50 WUE Grants**
  - Debra Gonzalez (916) 651-7026
- **Prop 50 Desalination Grants**
  - Fawzi Karajeh (916) 651-9669
- **Prop 50 IRWMP Grants**
  - John Woodling (916) 651-9291
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